AMERICAN

VETERINARY REVIEW.

A. LIAUTARD, M.D., V.S., EDITOR,

ASSISTED BY

A. LARGE, M.D., M.R.C.V.S.L., J. L. ROBERTSON, M.D., V.S., AND A. A. HOLCOMBE, D.V.S.

PUBLISHED BY THE

UNITED STATES
VETERINARY MEDICAL ASSOCIATION.

MARCH, 1879.

New York:
HOLT BROTHERS, STEAM BOOK AND JOB PRINTERS, 151 WILLIAM STREET.
1879.

CONTENTS.

PAGE.

ORIGINAL ARTICLES.—Atrophy of the Plantar Cushion 499
A Short Sketch of the History of the Development of Comparative Medicine 504
PLEURO-PNEUMONIA 515
EDITORIAL.—Pleuro-Pneumonia 521
Veterinary Medicine 524
THE EXTENSION OF TUBERCULOSIS AMONG THE CATTLE OF BAVARIA IN 1877 525
REPORT OF CASE.—Dystocia in a Cow 529
CORRESPONDENCE.—Stamping out Pleuro-Pneumonia 532
SUNDRIES AND NEWS.—Veterinary Honors 533
Veterinary Science in France and Belgium 533
Prolific Cow 533
Opportunity for a Practice 533
Glanders and Farcy 534
EXCHANGES, COMMUNICATIONS, ETC 534
CORRECTION 535
VETERINARY STATISTICS IN GERMANY 536

PAGE.
..... 499
arative
..... 504
..... 515
..... 521
..... 524
LE OF
..... 525
..... 529
..... 532
..... 533
..... 533
..... 533
..... 533
..... 534
..... 534
..... 535
..... 536

AMERICAN VETERINARY REVIEW,

MARCH, 1879.

ORIGINAL ARTICLES.

ATROPHY OF THE PLANTAR CUSHION.

BY G. CHENIER. TRANSLATED BY A. LIAUTARD, M.D., V.S.

(*Continued from page* 464.)

IV.

INDIRECT CONSEQUENCES OF THE ATROPHY OF THE PLANTAR CUSHION.

If the contraction of the wall is the most immediate effect of atrophy of the plantar cushion, and if it is the most direct, it is not always observed as the first result. There are other lesions that the practitioner often observes more readily, because their objective symptoms are more manifest, or because they are accompanied with lameness.

1. *Symptomatic Quarter Crack.*—One of the most common sequelæ of the contractions of the wall is this disease. Let us prove it. Veterinary authors recognize two varieties of cracked hoofs: toe cracks, seldom seen in front, quarter cracks, exceptionally met with in the hind feet.

Taking the etiology as a base for classification, we will divide them into accidental and symptomatic quarter cracks. The former,

quite rare, are due to causes imperfectly understood and probably of the same order as those producing toe cracks. They appear suddenly, and involve the wall in its whole thickness and extent. They follow the directions of the fibres of the wall, are rectilinear.

Symptomatic quarter crack is a consequence of the contraction of the wall; it is formed more slowly than the accidental quarter crack, is seldom complete, and in the majority of cases seldom extends beyond the two superior thirds of the wall. It is more common on the internal than on the external quarter, a rational fact, since the contraction is often unilateral, and in this case it is the internal quarter which is abnormally altered. When the contraction is double, the internal quarter is more contracted than the external.

The symptomatic quarter crack is seldom straight; though it nearly follows the general direction of the fibres, it is always more or less irregular and flexuous, either in the direction of the thickness or length of the wall. Almost always *deep* at its origin, it has a tendency to become *superficial* as it extends beyond the coronary band. Such are its most common and general symptoms. Let us add also that it is prone to return. Why is it a symptom of the contraction of the wall, and therefore a consequence of the atrophy of the plantar cushion? Immutable in the regions adherent to the os pedis, carried in its posterior parts by the motions of the fibro-elastic apparatus, the wall in the level of the posterior regions of the bone operates a sudden deviation from outwards inwards. It is that motion which renders the symptomatic quarter crack more or less irregular and sinuous; unless to the permanent actions of the motion of contraction is added that of one of the causes which give rise to the accidental quarter crack, in which case the lesion follows the direction of the fibres.

The etiology of the variety of quarter crack that we call symtomatic, was not unknown to Lafosse, who said: "When the quarter contracts, the hoof breaks in its lateral part."

2. *Symptomatic Corn.**—We call symptomatic corn the variety which is the consequence of the atrophy of the plantar cushion,

* Bleime of the French.

or, if it is preferred, which is one of the first symptoms manifested of the contraction of the wall.

The idea of looking at this contraction as a cause of corns is not new. Lafosse, Sr., had already remarked that dry corns may appear, without any *apparent causes*, on feet with strong heels, and for this reason he called them *natural*. M. Bouley prefers the name of *essential*, because, for him, these lesions are "inherent to some feet, as a consequence of their manifestation of their condition," and he adds that "they are principally seen in heavy, high, contracted or hoof-bound feet; or again, but accidentally, in those which, by want of wearing, an excessive length has been reached." We believe that from an etiological point of view, corns ought to be divided into three categories, a first, for those in which the contraction of the wall exists, and we would call them *symptomatic;* a second, which we name *essential*, appearing in feet with high heels from neglect of shoeing; a third category, including the corns characterized by high inflammation, with suppuration or gangrene of the velvety tissue underneath the extreme end of the branches of the sole; and corns exclusively found in flat feet with low heels, which in the majority of cases are due to the compression, by the shoe or a foreign substance, of the corresponding region of the sole, naturally too weak or rendered so by the shoer.

Considered in the symptomatology and the prognosis, the varieties of corns differ. The symptomatic corn is always dry; the essential corn may be *dry* or *moist*. The *accidental* corn is always suppurative. This last is the most serious; if neglected it may be accompanied with separation of the wall. The symptomatic corn is subject to return.

How explain the formation of the dry corn in case of contraction of the wall? If the action of the plantar cushion upon the velvety tissue underneath is harmless in the physiological condition, it cannot be so when that organ has lost, by its atrophy, its elasticity. There is then an abnormal pressure, producing a transudation through the walls of the blood vessels of the velvety tissue, blood which is mixed with the layers of horn as they are secreted.

At any rate, from a practical point of view, we may say that the dry corn is very generally the first objective symptom of hoof-bound; and for this reason does it most generally appear on the internal sides. This same peculiarity distinguishes the symptomatic from the essential dry corn, which affects at the same time, both sides of the foot.

Some corns are called stable corns,* because they appear after long standing in a stall. This is a symptomatic corn, resulting from atrophy of the plantar cushion, which takes place when inaction is too long maintained.

The essential dry corn may become moist, and even suppurative. Most likely then the transudated blood is in too great a quantity, for it cannot penetrate far enough the layers of horn in way of formation, and forms between the deepest layer and the living tissues, an effusion which undergoes the pyogenic transformation.

3. *Navicular Disease.*—Is navicular disease also a consequence of atrophy of plantar cushion? Having never observed that disease—unless we have mistaken it for hoof-bound proper—knowing it only by what you have read on it, we cannot be as affirmative as we have been for the symptomatic quarter crack and corn.

However, we have serious reasons to believe that navicular disease is also a consequence of the atrophy of the plantar cushion, and that its lesions are, so to speak, the extreme degree of the disorders of the atrophy of the fibro-elastic apparatus of the foot. Our opinion is created because the causes attributed to navicular disease are generally of the same nature as those likely to produce hoof-bound: special predisposition of "well-bred" animals, racing horses, long rest, dryness of the horn. What is certain is the rarity of this affection in France, and its reputed common appearance in England amongst high bred animals.

If we now look into the symptoms, we see that navicular disease, like hoof-bound, is most common in the front feet, and locally manifested by contraction of the heels. M. Bouley says:

* Bleimes d'eiurie.

"Nothing is more common than to see the contraction of the feet coincide with corns and *navicular disease*." Lafosse is just as positive, and says: "In cases of navicular disease the hoof-bound is so marked that the frog is scarcely seen at the bottom of the cavity on the plantar face of the foot, while there is union of the heels with an inflamed condition of the frog."

The symptoms obtained by the standing of the animal, are also common to both diseases: "At rest the hoof-bound animals assume the same standing position as if suffering with navicular disease" (L. Lafosse). "In navicular disease the animal points with one, or alternately with both, if both are affected; the rest on either foot is very short, the hind legs are brought under the centre of gravity, the back is arched, the decubitus is frequent. Coming out of the stable, the legs are stiff, feet are moved close to the ground, the shoulders are limited in their motions. After warming by exercise, the legs are supple, the shoulders more free, but as soon as the animal cools off, and especially after a hard day's work, all the symptoms reappear more marked. The disease and its consequences increase with time." Such are, according to Lafosse, the symptoms of navicular disease. Are they not similar to those of the well developed hoof-bound?

The same analogy is observed in the course and results of treatment. "In the first period, navicular disease is relieved if the animals are put to rest *without shoes* in a soft, damp ground-floor box stall, or turned out on marshy grounds." When the disease is well marked, the best modes of shoeing are the bar shoes or the slippers. "The bar shoe, with a piece of leather, felt or vulcanized india rubber or gutta percha, will always be preferable." Mr. Rey objects to the bar shoe, because the frog being atrophied, this shoe throws the rest back on the heels.

M. Lafosse, we believe, is the first French veterinarian who attributed navicular disease to high or rapid action. He says: "Would not the aptitude of animals used to rapid gaits be the physiological cause of that disease? The frequency of it in front feet and the part these legs play in low motions, gives this question some foundation." Rey, in 1865, adopts this idea, and amongst occasional causes he names "the fast gaits, high jumps,"

and adds "the disease is almost peculiar to high steppers." Goyau is of the same opinion.

For both diseases we see the question of etiology is yet unsettled. For both the same causes are called into play.

(*To be continued.*)

A SHORT SKETCH

OF THE HISTORY OF THE DEVELOPMENT OF COMPARATIVE MEDICINE.

From the Thierärztliche Jahrbrücher, 1878. *By Prof. Dr. J. E. L. Falke, of Jena.*

TRANSLATED FROM THE GERMAN, BY F. S. B.

MEDICINE IN ANTIQUITY.

The rising son first illuminated the medical horizon among the ancient Greeks. There medicine stood under the influence of the gods, especially represented by Asklepias and his posterity, he having first performed much in their service. Cylule was the especial protector of animals, and the discoverer of different curative and protective medicines against the diseases to which they were subject. We observe by this ideal people the active observation of the favorable and evil influences of physical agents during treatment; they also observed that animals instinctively shunned surrounding dangers and sought protective influences. Empirical veterinary medicine took its beginning and became gradually more perfected with the use of animals for sacrifice in the temples. Behold the beginning of Anatomy, Physiology and Pathology! The scientific element there took an early birth. *Philosophy was the alma mater of medicine.* I place express emphasis upon this fact, as we always find, in tracing the history of the cultivation of man, that where he has disdainfully turned away from the frequently despised teachings of the thinkers, a coarse materialismus soon made itself apparent. For the practitioner, we cheerfully defend the two Baglivic pillars of medicine

—"Experience and Comprehension." But the experience of individuals often varies to an extreme degree, and the understanding (comprehension) of medical objects is not to be confined within too narrow limits, and always requires renewed criticism—the *cognitio certa ex principiis certis.*

One of the seven Thales of Milet, (629 –544 B.C.) by means of his natural philosophical taste, inspired in his students an active desire to make observations upon the vital phenomena of the animal organism, and to consider anatomical relations which led to the development of a theoretic medicine.

Pythagoras, of Samos, (580–504 B.C.) greatly enriched his knowledge by journeys to Egypt and to cultivated (in the educational sense) parts of Asia, and on his return to Krotona established the first medical school, where he especially gave utterance to the conviction, *that medicine and the public hygiene were things which did belong to the priests.* His student Alkmæon, also Empedocles, (born 504 B.C.) and as Aristotle expressly mentions, Diogenes of Appolonia, busied themselves with anatomical researches upon animals with the desire of furthering themselves in their work as doctors; and Hippocrates (460 B.C.) is declared by Democrites to have been the wisest of all natural philosophers, as he found him busied with anatomical researches. Hippocrates is, however, to be declared the hero of medicine, in that he betook himself to the consultation of the Tables of Devotion, which those healed in the Asclepien temples had offered to the gods in thankfulness for the cure. Upon these tables were designated the nature of the diseases and the means by which they were cured; from these Hippocrates drew conclusions of the value of the different means of healing, and set the wheel of medical progress rolling in a victorious direction, and uttered his most important saying, "*that the human body was not to be understood without a knowledge of the entire world.*" We observe that he must have dissected diseased animals, as he speaks of hydrops and hydatids in the lungs. He combatted the ruling idea with regard to the nature of epilepsia, *i.e.*—that demons were the cause of the same—as by opening the cranium of goats affected by the disease in question, he found water to be present.

Xenophon (440 B.C.) wrote a work upon the training and treatment of horses, and one on the military value of cavalry.

Aristotle, (384 B.C.) the gifted student of Plato, combatted many mistakes of his predecessors with regard to human diseases, by means of numerous dissections of animals. He also gave short descriptions of some diseases of the ass, horse, cattle, swine, dog, elephant and some fishes. Naturally, we also find in him many mistakes with regard to the comparisons drawn between the individual species of animals and their physiological and psychological characteristics. He himself gives utterance to his doubts, as the inner construction of man was but little known, and the knowledge must be gained by the dissection of animals.

Man was not so scrupulous under the Ptolomaischen queens, as we find him here dissecting the human body; and the knowledge thus obtained spread, with other sciences, over Asia Minor and Egypt. Herophilos of Chalcedonia, (180 B.C.) one of the first leaders of scientific anthropotomy, made himself especially valuable by his investigations for the seat of human diseases. Much of this valuable material passed into forgetfulness with the development of the empirical school. An opportunity for the development of comparative anatomy by the section of rare animals used in the combats of the Roman circus during four centuries, was entirely neglected.

Aurelius Celsus (40 B.C.–20 A.D.) wrote a great work, "de Artibus," in which he treats of the diseases of man and animals. Columella and Pelargonius owe their knowledge of animal diseases to him.

Lucius Junius Moderatus (40 A.D.) gives directions for the treatment of diseased horses, sheep and goats in his writings upon agriculture. This work received much consideration, and has been widely distributed by means of translations, thereby contributing largely to the development of veterinary medicine. Claudius Galenus, (131–201 A.D.) who is noted for his careful education, and the mathematical exactitude with which he treated the rich treasury of material at his command, critically applied himself to studying the phenomena of nature, and recommended the most diligent dissection of animals. He seems to have used apes or

monkeys, as he only had opportunity to dissect a human cadaver three times. He most strongly recommended the human practitioner to busy himself with observations upon animals. At his time we find not only veterinary practitioners, but teachers of the principles of veterinary medicine also. Since the third century veterinarians held army appointments, and were employed to watch over the health of animals kept for combat in the circus. According to a decree of Constantine, the veterinarian was placed equal to the mediciner with regard to the privileges and advantages of his art. The luxurious stables of the Kaiser of Constantinople may have aided not a little in the progress of veterinary medicine. In Rome, the veterinarian was known as mulomedicus, and the art as mulomedicina—a term we also find used by Columella and Vegetius.

Of the medical and veterinary writers of the fourth century one alone, Bishop Nemesius, seems to have followed a scientific direction. It is no wonder that medical art remained dead for several centuries. The Arab and the Moor were alone the teachers of Europe. The Arabic doctor was, however, nourished and brought up in superstition, and treated diseases accordingly. He looked upon disease as the product of supernatural forces, only to be combatted by cabalistic formulæ and amulets. Actius, (550 A.D) a noted doctor in Amida, in his Tetrabiblion speaks of the epidemics and epizootics which prevailed at that time. The collection "hippioitrica u, de rustica lib xx," is worthy of mention.

MIDDLE AGES.

Under Constantine Porphyrogenetes, a breath of life again animated the dead mass, to which also contributed the philosoph and mediciner, Michael Psellus, as well as the pest which from the early part of the twelfth century spread desolation among the generations of man. The scientific spirit of the Roman Kaiser, Frederich II, (1194–1250) exerted a favorable impression on the existing conditions, for he not only founded schools for the study of general science at Padua in 1222, at Naples in 1224, also in

Messina, and in the last years of his life at Pavia, but also appears himself in the character of a veterinary writer; he also assisted his "marescallus major," Sigerius Ruffo, in his scientific works upon natural history, and comparative anatomy and pathology—said Ruffo being especially noted for his teachings with regard to the diseases of the extremities. The "Anatome porci," from Colophon, is also worthy of mention.

Demetrius, the body-surgeon of Kaiser Michael Palæologus, especially distinguished himself by his sharp comprehension of the natural laws regulating the higher organisms, and the resemblance which their diseases had to each other. Petrus de Cresceventiis, who wrote in the thirteenth century, is to be mentioned as having carefully considered the diseases of animals in his writings upon agriculture. Many superstitions are to be found mixed up with the writings of this period.

Mondini again received permission to dissect the human form divine, in consequence of which, in 1315, he published an anatomy with a characteristic introduction. He correctly intimated the nature of the pulmonic circulation, which was more fully demonstrated six years later by Columbus of Cremona, who was allowed to dissect the cadavers of fourteen men each year, and who also practised *vivisection upon dogs and swine.* About his time Master Maurus or Marius of Cyprus, with the assistance of a veterinarian from Germany, gave out a work upon the diseases of horses and cattle, to which was prefixed anatomical descriptions with illustrations. Dino was the son of Pietro Dino (1350), a family noted as having seven veterinarians among its members. His "Mascalcia divisa in quinque libros," is, as he himself says, a compilation from the writings of Vegez, Aristotle, Jordanus Rufus, and Theoderich. Bartolomans Spadafora, of Messina, (1368), published a work in Sicilian upon veterinary medicine. The best work was, however, incited by Prof. Mondini, and found especial protection and support in Prag under Kaiser Carl IV., who founded the university in 1348, where medicine was taught from the beginning. In 1376 the university, which had been recently founded at Montpellier by Pope Nicholas IV., received permission to dissect the human cadaver. The study of anatomy

was much excited by the work of Guy, of Chouliac, which appeared in 1393.

The study of comparative pathology became more and more developed, and was much assisted by the work of Antonius Maus upon animals and murderers. Caspar Bouhin and others relate in the "Rousset Shrift, de Hysteratomy on infeutment cæsarian," Paris, 1551, that the cæsarian section, which had been successfully performed by Galen on a deer, *was first successfully performed by a Swiss veterinarian named Jacob Nufer, of Siegerhausen, who performed it upon his wife in* 1550, *mother and child doing well.*

Up to the fifteenth century, veterinary medicine thrived in Italy alone, where it received favor from Kaiser Frederich II. We find Italian veterinarians and equerries at all the European courts during this period. The art of breeding was essentially forwarded in Germany by the excellent work of Marx Fugger, entitled "Zucht der Kriegs u. Burgerpferde," Augsburg, 1578. Veterinary science bloomed greatly in Spain at this time. Alphonso V. of the Arragons ordered his majordomos to write a work on veterinary medicine, and to call to his assistance the most competent veterinarians. This was executed by Don Manuel in the Calatonic dialect, and translated and added to in that of Castile.

A marked transformation is apparent from the fifteenth century onwards. The earth was illuminated by the most brilliant intellectual undertakings, and the heavens were illuminated and the flashes of intellectual light struck against the hierarchy of holy superstitions and it fell. "Nature awoke from her long sleep, and stretched her limbs from the panesis in which they had been confined." "O, Jahrhundert, O, Wissenschaft, welche Freude in solcher Zeit zu leiben," said the young German humorists, Erasmus and Ulrich von Hutton. Among the principle workers of this period was Andreas Vesalius (1513–1564), who by means of his classic education, as well as by his temperament, was able to overcome all hindrances, and was made professor of anatomy and surgery in his twenty-third year. His contemporaries speak of him as a man to be trusted, and such he was, indeed. He knew

what he would have, and had what he would; he was called a lover of the right, and that he was, for he battled for the recognition of his endeavors against the stupidness and condemnation of the world. Does the pioneer fear blame when by his assaults a few more rays of light enter the sanctity of superstition and ignorance? Is there no recognition for him? yet posterity forgets not to do him honor. Vesal produced an immense transformation by means of his activity as a teacher, and his wonderful anatomical diligence and by his wonderful "de humani corpors fabrica," Basel, 1543, which received the active and obstinate opposition of the church, and yet within a century passed through fifteen editions.

Here we see two striking and enlivening examples, and that in a dark and gloomy period, how work, which is performed in truly scientific spirit and manner, cannot pass away, even though its contemporaries trample it under foot—Vesal's work on "Immortale Opus," and Columbus' "Voyage to an Unknown World." After Vesaliu's comes the work of Baco, of Verulam (1561–1626), "Zootomæ necessitas in universa prope modum humana sapientia;" his excellent philosophical education also exerted a most favorable influence upon the investigating methodic in medicine. Fabricus ab aqua pendente, born 1537, made the discovery of the value of the veins by man and animals at this period.

Adrovaudi published the following works, "de ornithologia," 1599; "de quadrupedilius," 1616; "del anatomia e dell' infirmita dell cavallo," 1598; "anatomia dell cavallo infirmita e rimedii," 1599, 1602,1618; and his scholar, Volcher Coiter, 1600; "die ersten guten lectiones atque icones uber all gemeine vergleicheude pathologie," Nurnburg, 1573–75. About the same time the general knowledge was increased by a work entitled, "Hipposteologie," Paris, 1599, from Jehon Herrard, and the work of Carso Revini, senator of Bologna. Casper Asselli *discovered the chylus vessels by vivisection upon a dog*, and Joham Pequet of Montpellier, rightly named the ductus thoracicus, which had been previously discovered, but looked upon as a vein. This discovery was also made upon a dog. William Harvey (1578–1658) demonstrated in his work "Exercitatio anatomica de motu cordis et

sanguinis in animalibus" 1628, the circulation by the most exact observations upon animals, and studied the formation of the heart in all animals to mollusks and insects. The people of his time were not grateful for these valuable contributions, and he therefore postponed the publication of his work, "Exercitationes de generatione animalium, quibus accedunt de partu, de membranus ac humoribus," wherein he mentioned the noted saying, "Omne vivum exovo," until shortly before his death, although ready for publication in 1633. Malpighi continued his observations with great zeal, and published his work in the work entitled, "de formatione polli in ovo," and in an appendix, "de ovo incubato," London, 1673; and the student Ludwig Hammer, in Leiden, discovered the spermatozoa in 1677. Antonio Fallisneri concluded this work, until Haller in his "Istoria della genetione" Venice,1731. Winter Von Adlersflugel wrote a book entitled, "Hippiater expertus, der wohlerfahrene Rossorzt," Nurnburg, 1698. Marco Aurelio Saverino, (1580–1656) gave the picture a more rotund form by his work "Anatomia Democritea," Nurnburg, 1645; he compared cuncta animaliune genera, the lowest animals as the echinoderms and zoophytes with man in "quibus arcana majora suspicor, quane ut vulgis opinetur." He may be rightly looked upon as the founder of the doctrine "de usu partium," as he most earnestly advocates the necessity of the knowledge of comparative pathology to practitioners. The discovery of the microscope by Hans Jessen and his son Zacharias, toward the end of the sixteenth century, is observable in the work of Severino. Although the Amsterdam naturalists, Swommerdam—1637-1680—and Leuwenhock at Delft, 1632–1723, had to combat with all the inconveniences of incomplete instruments, the latter clearly demonstrated with the same, the immediate passage of the blood from the finest arteries to the finest veins by man, frogs and fishes; these observations are to be found in his writings entitled, 'opera omnia s, arcana naturæ ope microscopii detecta," Leiden, 1722.

Thomas Willis essentially contributed to the knowledge of the brain by his writings, "Cerebri anatome," London, 1644; "de anima brutorum," 4 Edi. Oxford, 1674; "Pathologia cerebri et

nervosi generis," Oxford, 1667. Samuel Collins also contributed much to the work of progress in his "Systema anatomicum," London, 1683–85, in which he endeavored to give a firm basis to the dietetic, pathologic and therapie of the human organism. Albrecht V. Haller trod in his foot-steps.

LATER PERIOD.

Notwithstanding several universities were already in existence in the sixteenth and seventeenth centuries, from which many distinguished men had gone forth who had powerfully influenced medicine by word and pen, yet the greater number of these doctors were full of prejudice and bigoted affection for antiquated forms, as is illustrated by a prescription for a wound-balsam to be found in the Pharmacopia of Wurttemburg, 1750, in which we read that the said balsam was to be prepared from many *vegetables, six young living puppies, six living frogs, and twenty-four living earth worms.*

At this time took place the fortunate experiment of Spallanzani and Rossi at Pisa, and Simms over the artificial fructification of plants and animals, including woman. Baron Sind's "grundlicher Unterricht von der Pferdezucht" and "der ein Feld und auf der Reise gescivind heilende Pferdearzt" appeared in 1769 and 1770, and in 1775 "Vollstandige Unterricht in den Wissenschaften eines Stallmeisters," and in 1785 Valentine Trichters, "Anatomie des Pferdes." Bridge's anatomy of the horse's foot was already published in 1751, and Stubbs' wonderful anatomy of the horse in 1766. A work which received a general acceptation and translations into other languages was W. Gibson's "A Treatise on the Diseases of the Horse," London, 1751.

As to zoology it is well enough known that the learned men of antiquity were active in such researches, yet Conrad Gessne, (born Zurich, 1575), essentially contributed to a scientific methodic in his "Nasurgeschichte der Thiere." A sure methodic was however only to be obtained by means of comparative anatomy. Ray, (1628–1707,) Buffon, (1707–1788) and Linnée, born 1707, gave the greatest impulse to the classification of the animal kingdom; the greatest service however was given by Baron

Cuvier, born at Maempelgard, 1760, in that he reviewed the detailed works of his predecessors in a true scientific manner. Although much credit is due to Blumenbach for his "Naudbuch der Comparativen Anatomie," 1805, in which he followed in the path of Haller, and the best of his predecessors, and followed the conviction that physiology derived more light from comparative anatomy than from anthropotomy alone; and although in his lectures and work he took notice of the development of veterinary medicine, yet greater service was rendered by Cuvier through his "Leçons d'anatomie comparée," Paris, (1800–1805.) "As every organism," says Cuvier, "unites in itself the conditions to its existence, so must every part of it so combine, to form a complete whole." The analysis of these conditions leads to the discovery of general laws. In his 19th year Cuvier wrote to his friend Pfaff, "we must study exactly the relation of all existing beings with the surrounding world, and especially endeavor to discover how far they individually contribute the economy of the whole."

Marie Françose Xavier Bichat, (1771–1802) the creator of the new French school of medicine, the zealous teacher of anatomy at Paris, who enlivened anatomy by means of physiology, deserves especial mention. Cloquet, Beclard, Magendi, Berres, Schwann, M. Barry, Heusinger, Heule, Rathke, Kolliker, and others have been his followers. Ernst Ludwig Heim, born 1747, rendered essential service through his writings, essentially contributed to comparative pathology by his dissections of over one hundred cattle cadavers which had perished from rinderpest and anthrax, and by assisting in the formation of the first German veterinary school in Germany in Berlin in 1790, after France had erected a school at Alfort with great liberality, following thereby the idea of Cothenius "sur la necessité d'une ecole Veterinaire." Essentially contributing to the erection of the same was the utter impotency of the human doctors in the face of the devastations of rinderpest in many parts of Europe at this period

We need not wonder that France came to such conclusions, as there is no land in Europe where sorcerers and "devil drivers"

have so persistently held to their existance as in "La Belle France." A much esteemed writer speaks of the miracles of St. Hubert, St. Antons, St. Aloys, in a way scarcely equalled by Cato and the most obscure Greek Hippiaters. The most noted work was "Le parfait Marechal de Solleysel," first edition, Paris, 1664, and which was translated into many languages; the book has no scientific value. Saunier "la parfait connoissance des chevaux" 1734, and Gaerincre, "Ecole de la Gavallerée," 1754, were no improvement on the same.

Under the direction of Scotti a small Veterinary Institute had already been called into existence in Vienna, which was rebuilt under Joseph II, the basis of the present extensive establishment being laid by Wolstein. München, Dresden, Hanover, Stuttgart, Carlsruhe all followed in course of time. A school was erected in Spain in 1793; in Italy schools are to be found in Turin, Milan, Naples, and Bologna. In England, at London, Edinburgh and Glasgow; in Holland, at Utrecht; in Denmark, at Copenhagen; and Sweden, at Scara, while in Russia the Dorpat Institute is noted for its many scientific contributions.

Other contributors to the value of comparative studies in the field of medicine were Ignaz Dollinger, (1770–81,) the untiring naturalist, who, to illustrate the gigantic strides of science, frequently began a new year's lecture with the remark, that what he had the previous year lectured was no more true; Lorenz Oken, (1779–1851); Carlasmund Rudolphi in Berlin; as well as John Fried. Mechel, (1781–1833), and Carns, who all clearly demonstrated the many-sidedness and variety of the organic world. Further should be mentioned Diedmann, Kirby, Grafenhorst, John Hunter, W. Kooke, Laennec, Dupuytren, Otto Proschaska and others.

With Rudolphi worked Diederichs and Hertwig. They were not only well known as teachers at the Berlin school, but also by their work in the field of veterinary surgery—the latter especially by his contributions to physiological actions, as well as toxicological of medicamenta, and his clearing of the question with regard to the existence and genesis of lyssa.

This direction found its turning point in the physiological

healing art of Wunderlich "pathologie is the physiologie of the diseased organism. She requires therefore the same means and methods to confirm her facts, and the same logic to the demonstration of her proofs." Virchow and the natural scientific school have followed in the same foot-steps. "Omnis cellula e cellula."

PLEURO-PNEUMONIA.

OFFICIAL ORDERS ISSUED BY GENERAL PATRICK IN RELATION TO PLEURO-PNEUMONIA.

OFFICE OF THE BOARD OF HEALTH,
Municipal Department Building,
Brooklyn, Feb. 14, 1879.

To all Veterinary Surgeons and all Owners of cattle, their Agents, Employés or Servants, in the Counties of Kings and Queens:

Having been appointed by the Governor his agent for the enforcement in the counties of Kings and Queens of the provisions of chapter 134 of the Laws of 1878, entitled, "An act in relation to infectious and contagious diseases of animals," by virtue and in pursuance of said act and the rules and regulations made by His Excellency thereunder, and in accordance with his directions, I do hereby require that all owners of cattle, their agents, employés or servants, and all veterinary surgeons shall report forthwith to me at the office of the Board of Health of the city of Brooklyn, all cases of disease among cattle in either of said counties known or suspected by them to be of an infectious or contagious character. And, by virtue of the said authority, the movement of cattle in any part of said counties is also prohibited and forbidden, either from any landing place or dairy to a place of slaughter, or from one dairy to another, or to any dairy or slaughter-house, except upon a permit granted by myself after the examination of said cattle has been made in such manner as shall be directed. All cattle intended for slaughtering in the city of Brooklyn will be landed at the foot of North Ninth street, or at the foot of Gold street, and moved from these landings only on a permit from this

office. Landing places for milch cows will be designated and made known as soon as the proper arrangements therefor can be made.

Whenever notification is received at this office that any cattle are sick with a contagious disease, an inspection will be immediately made, and all proper steps will at once be taken to arrest and prevent the spread of said disease. Inasmuch as these diseases may be conveyed by persons from the sick to healthy cattle, all persons employed in the care of cattle that are well, are forbidden to go in stables or upon premises that are infected, or where cattle that are sick with a contagious disease are kept; and likewise persons employed in an infected stable are not permitted to go among well cattle, or upon any premises where well cattle are kept.

Where cattle have been exposed to infection, their owners will be allowed, under proper restrictions, to have them either slaughtered or quarantined. If slaughtered, their meat will be examined, and if proper for human food, may be disposed of as such. When quarantined, it must be done entirely under the direction and control of this office.

When diseased animals are reported to this office, as above required, and are thereafter ordered to be slaughtered, a certificate of their value will be made for transmission to the Governor, and a duplicate thereof given, if required, to the owner. No such certificate will be given, however, in the case of any diseased cattle that may be found not having been reported to this office as required.

Attention is called to the fact, that any violation of or refusal to comply with any of the provisions of the said act, or of the rules, regulations and orders made under it, is made a misdemeanor, and subjects the offender to a fine of $250 and imprisonment for one year.

It is to the interest of all slaughterers of cattle, cattle dealers and dairymen, that the contagious disease now known to exist among the cattle of this locality, shall be eradicated as soon as possible, and therefore the earnest co-operation of all such parties is confidently asked, that the unrestricted traffic in this most important part of the Commonwealth's commerce may be re-established at an early date.

HEADQUARTERS BROOKLYN BOARD OF HEALTH,
Feb. 21, 1879.

In view of the existence of contagious pleuro-pneumonia on Long Island and vicinity, the owners of cattle in adjacent counties are earnestly requested to co-operate with the State authorities in their efforts to stamp out the disease. Attention to the following suggestions will greatly facilitate the work of the cattle disease staff, and is strongly urged for general adoption:

First.—Purchase all new cattle from neighbors only whose stock is known to be sound. Avoid purchasing from dealers, and refuse even Western cattle that have been kept for a day in common cattle yards or dealers' stables.

Second.—In the case of all new purchases, even from neighbors, when the stock has passed over a public highway, place such animals in a separate building at a distance from the home herd, and keep them thus secluded for one month after purchase.

Third.—Should any such quarantined animals become sick, report the same at once to General Patrick, Board of Health, Brooklyn, together with the place they were brought from, the name of the former owner and the mode of conveyance.

Fourth.—Notify General Patrick at once of all suspicious cases occurring among cattle, even independently of the purchase of new stock.

Fifth.—Exclude all cattle dealers, butchers and visitors, under all circumstances, from yards and buildings in which store cattle are kept.

In view of the importance of the speedy extinction of the disease, the hearty co-operation of the owners of cattle is confidently expected.

A CARD IN REFERENCE TO THE CATTLE DISEASE AT BLISSVILLE.

GAFF, FLEISCHMAN & Co.,

GENTLEMEN.—In accordance with your instructions to visit on behalf of the owners of the cows in the distillery stables at Blissville, with full powers to add to our number, and to exercise discretionary powers as to the killing of any animal which might be suspected of being affected by contagious pleuro-pneumonia; we

have to report that we have associated with ourselves for the above object, the following gentlemen, viz: Professor R. W. Finlay and H. T. Sears, M.D.

Herewith we send you a statement of the conclusions at which we have unanimously arrived, embodied in the subjoined report.

We remain gentlemen, yours respectfully,

GOING BROS.

REPORT.

We, the undersigned, having made a careful inspection and examination of the cow stables at Blissville, near the distillery of Gaff, Fleischman & Co., extending over a period of three days, have to report as follows:

We first visited these stables on Saturday, the 8th inst., and commenced our examination by inspecting the cattle in the centre shed. A careful examination of each animal revealed, with but very few exceptions, a healthy stock of cattle. Owing to sudden elevations and depressions of temperature, having an irritating effect on the bronchial mucous membrane, a characteristic cough is induced, principally affecting those animals next to the doors, but no alarming symptoms were found in a majority of cases. In some few cases an elevation of temperature was found. Physical examination of the chest revealed increased bronchial breathing, and in one or two instances a small amount of consolidation of the lung tissues was in existence, but no breaking down process was to be found; conclusive evidence to our minds that the animal had passed through a slight attack of broncho-pneumonia *only*. The general appearance of the animals affected was indicative of average health and animal spirits, appetite good, and the animal almost sufficiently fat to be butchered. In one case we found an animal suffering from pleuro-pneumonia of a sporadic or non-contagious type, as evidenced by the vitality of the animal, though somewhat emaciated. This cow, while being led out for a closer examination, jumped a ditch with perfect ease. The temperature of the animal was higher than that of any in the stables, the thermometer registering 107¼ degrees. Examination of the chest revealed effusions. A sample of the milk was

for microscopic examination, and revealed by a qualative analysis, made by Professor E. C. Spetzka of Columbia Veterinary College, oil globules in perfect shape; no pus corpuscles nor bacteria were found, the report being that the milk was perfectly healthy.

We again visited the stables on Tuesday, the 11th inst., and examined the second and third stables, the examination, as thorough as in the first instance, disclosing no evidence of contagious pleuro-pneumonia. Subsequently on the same day we revisited the stables in company with the Long Island City Board of Health, and expressed our readiness to slaughter any animal they might select, but they were satisfied with the result of our examination, and the general healthy appearance of the stock, and decided that it was not necessary to hold any post mortem examination, expressing themselves as satisfied that no contagious disease existed. We finally visited the stables on Thursday, the 13th, and found the sanitary condition improved, there not being a sick animal in the stables. To obviate the sudden elevation and depression of temperature alluded to in a previous portion of this report, we would recommend precautionary measures by adopting an improved style of building. In conclusion we have to express our firm conviction, from the result of the examination made, that contagious pleuro-pneumonia does not exist in the stables referred to above.

JAS. A. GOING, M.R.C.V.S.E.,
Veterinary Editor "Spirit of the Times."
R. W. FINLAY,
Professor of Theory and Practice, Columbia Veterinary College.
H. T. SEARS, M.D.
JOHN B. GOING, D.V.S.,

New York, Jan. 14th, 1879.

AN ACT

To incorporate State and Judicial District Veterinary Societies for the purpose of improving the practice of Veterinary Medicine in the State of New York.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Sec. I. It shall be lawful for not less than five of the graduated Veterinary Surgeons in the several judicial districts of the Supreme Court of this State to meet together and organize Societies, and whenever said Societies shall be organized as aforesaid, they are hereby constituted bodies corporate in fact and under the name of "*The District Veterinary Society*" of the respective judicial districts where they shall be located.

Sec. II. Each of said district Societies, when organized as aforesaid, shall elect delegates who shall meet in the City of Albany, and proceed to organize—not less than 15 delegates being present—a State Veterinary Society, which shall be named "*The Veterinary Society of the State of New York.*"

Sec. III. The Secretary of each of the district Societies shall lodge in the County Clerk's office of some County within their district, a copy of all the proceedings and records of their organization; and it shall also be the duty of the Secretary of the State Veterinary Society to lodge in the office of the Secretary of State a copy of its records and proceedings had at the organization thereof; and the said County Clerks respectively and the Secretary of State shall file the same in their respective offices, and shall receive therefor a fee of one dollar.

Sec. IV. The State Veterinary Society shall appoint eight (8) censors to constitute a Board of Censors, who shall be divided into three classes, two to serve two, three to serve three, and three to serve four years; said Board of Censors shall meet at least once a year at such time and place as they shall designate, and thus met, six of them constituting a quorum, they shall examine all persons who are entitled to examination under the provisions of this act, and who shall present themselves for that purpose, and report their opinions in writing to the president of said Society; and on recommendation of the said board it shall be the duty of the president aforesaid to issue a certificate to such person or persons, countersigned by the secretary, and bearing the seal of said society, conferring upon him or them the degree of "*Licentiate of Veterinary Medicine*," L.V.M.; and it shall not be lawful for any other corporation to grant to any person the said degree of "Licentiate of Veterinary Medicine."

Sec. V. Any person who shall knowingly and falsely claim or pretend to have or hold a certificate of license conferring upon him the degree of L.V.M., granted by the Veterinary Society of the State of New York, or who shall falsely and with intent to deceive the public, claim or pretend to be a graduate from any incorporated Veterinary College, shall be guilty of a misdemeanor.

Sec. VI. All veterinary practitioners, at the time of the passage of this act, and all persons who shall have received a diploma from any Veterinary College, shall be entitled to an examination by said Board of Censors.

Sec. VII. Candidates for examination shall pay into the treasury the sum of twenty dollars; candidates for admission shall pay into the treasury the sum of five dollars.

Sec. VIII. The Veterinary Societies of the respective districts, and the State Veterinary Society, may purchase and hold such real and personal estate as the purposes of their respective corporations may require; the district Societies not exceeding the sum of five thousand dollars, the State Society not exceeding the sum of twenty thousand dollars.

Sec. IX. The respective State and judicial district Societies may make all needful by-laws, rules and regulations, not inconsistent with any existing law.

Sec. X. The Veterinary Society of the State of New York shall be entitled to all the privileges and immunities granted to State Societies.

EDITORIAL.

Contagious pleura-pneumonia has at last forced itself upon the attention of the American public.

This dread danger has for years been lurking in our midst, gaining strength day by day as it quietly spread from numerous foci of propagation, waiting only for the opportunity which would some time come to spread like wild-fire throughout our land.

Every veterinary sanitarian in this country has watched with

increasing trepidation the insidious growth which this disease has made, and they have from time to time warned our authorities of the great risks which inaction in the matter invited.

New Jersey, in 1873, '74, and '77, experienced three important local outbreaks, without attracting especial attention from the authorities of the State, and numerous points of infection undoubtedly exist within her borders to-day.

Connecticut and New York States have, at various recent periods, met with serious losses from the same cause, and Long Island—the principal pest-hole of the disease—numbers hundreds of cattle now infected with the contagion. There can be no doubt that this latter locality has, since the introduction of the disease there in 1843, been the main centre from which it has been propagated to surrounding districts, for the authorities have looked on in silent contemplation without taking a single precaution to prevent its spread or adopting a single means of eradication.

To England's anxiety for protection against the introduction of animals affected with contagious diseases, and the search for facts regarding rumors of pleura-pneumonia within our borders made by the Canadian government through Prof. McEachran, do we owe the present warranted excitement in this matter.

The village of Blissville, lying on the outskirts of Brooklyn, between Kings and Queens counties, enjoys an unenviable notoriety by reason of the large number of cattle within its limits that are infected with contagious pleuro-pneumonia, for of the nearly 900 cattle in the district, it is, according to inspecting veterinary surgeons, somewhat difficult to find a healthy one. It was the report to the Canadian government of the casual inspection made of these and other stables that precipitated the investigation that is now being so thoroughly made.

With commendable promptness our Governor, under the provisions made by the law of 1878, relating to infectious diseases of animals, appointed Prof. Law, of Cornell University, to make a personal investigation of the cattle throughout the State.

The investigation was begun on Long Island, and shortly resulted in a report to the Governor of the serious extent to which pleuro-pneumonia was present there, and the necessary steps

which should be taken to secure protection against its further spreading. In a single day the Legislature lent its aid by appropriating $10,000 with which to defray the expenses of the stamping out and quarantining process adopted by the inspectors, and the Governor appointed Gen. Patrick to superintend the thorough execution of all orders.

This decided action taken by the State of New York, with the general publicity given it by the press, could not fail to command the attention of authorities in surrounding States, and so Connecticut, in her watchfulness, at once detected the broken quarantine made by an infected herd within her limits, and by informing the Board of Health of the City of New York, secured their detention, official inspection, and destruction.

New Jersey, fully awake from her long lethargy in the matter, is reported to be earnestly discussing measures that shall look to the extermination of the disease within her territory.

This, then, is the condition of affairs at the moment so far as pleuro-pneumonia is concerned. Let us look at the exigencies of the case and see what precautionary measures are demanded.

First, in the minds of the public at least, is the threatened destruction to our rapidly-growing export trade in live cattle. This has within a short time become an important industry, estimated at many millions of dollars, and it is to our own interest that it should be adequately protected. To accomplish this it will be necessary to satisfy foreign governments that our animals are free from infectious and contagious diseases.

But valuable as this traffic has become, its threatened destruction is not the most serious danger which besets us on the part of contagious pleuro-pneumonia; the comparative ease with which the disease would spread as an epizootic, infecting the great herds of the West, from which it could scarcely ever be eradicated, thereby crippling forever our live stock exports, and entailing a pecuniary loss not to be estimated, is the culminating calamity against which the strong arm of the law should now be invoked.

While the disease is confined to a few well known localities, as it is to-day, it can easily be stamped out, and our country effectually rid of its presence for all future time, unless it should

be again imported, when proper inspection would prevent its getting a foothold. To accomplish the desirable result of complete extermination, every State infected must adopt measures for destroying all animals affected with the disease, and quarantining all those exposed to the contagium, for a period sufficiently long to warrant its complete extinction; and even assuming the incubative stage to be so long as fifteen months, as is claimed by Ziegler, of Switzerland, three years time would be ample in which to destroy the last vestige of this dread disorder.

The prophylaxis of inoculation, efficient as it may be in an epizootic outbreak, certainly has no claims for adoption in connection with the disease as it now exists, for it would only prove one of the surest methods of spreading the disease, while our aim should be to confine it to its present quarters and there eradicate it at whatever cost the method may entail.

In the meantime our export trade in cattle should not suffer, for the animals so used are not taken from the infected districts, and they reach the seaboard ready for embarkation without any serious risk of becoming infected, unless there be an exception to those crossing the State of New Jersey. Let the infected States institute effectual systems of quarantine, and the national government appoint competent veterinary inspectors for each port from which cattle are shipped, and our trade with England and other foreign countries can go on unimpeded.

VETERINARY MEDICINE.

The need felt by the veterinary surgeons throughout the United States to regulate the practice of veterinary medicine is too well known by our readers to be recalled to their minds; and there is perhaps none who recognize this fact more than those in the State of New York. Last year already, though veterinarians were only indirectly connected with it, a bill was presented before the Legislature at Albany, but through some unknown cause was pigeon-holed, and probably will never again be brought to light. The need still exists, and *perhaps more than ever* is strongly felt

by every honest practitioner, be he regular graduate or self-made.

To obtain this and with hope that their action would be sanctioned by a majority, almost-all the veterinarians of New York City and Brooklyn met together, and after some preambles of organization, drew an act for the regulation of the practice of veterinary medicine throughout the State. A copy of this was sent to every graduate veterinarian as far as could be known, requesting him to return the same with his signature if approving, or blank if unfavorable to it. A few days later a meeting of *all graduates* in the cities of Brooklyn and New York was called, and after considerable discussion, modification, and loss of time, an amended act was voted upon, section by section, and adopted for presentation to the Legislature.

We present the bill to-day to our readers, and hope that those who favor it will give it their assistance, and that those who may object to it will take advantage in the pages of the REVIEW to make their objections known.

It will no doubt require all the energy and influence of the true friends of the profession to make it a law, if we are to judge by the threat which one of the graduates present at the last meeting was not ashamed to make after the whole act had been accepted.

THE EXTENSION OF TUBERCULOSIS AMONG THE CATTLE OF BAVARIA IN 1877.

From the Ministerial Records, by Ph. J. Goring, M.V.

FROM THE DEUTSCHE ZEITSCHIFT FUR THIERMEDICIN, VOLS. IV., V., AND VI., LEIPZIG, 1878.

Mr. Goring begins his abstract from the above report by alluding to the very natural attention which all interested classes must give to the question of the injuriousness of flesh and milk from animals complicated by this disease, and to the very interesting experiments made by the late Director General upon the

subject, "*according to which no more doubt can remain of identity of the so often appearing 'Perlzucht' Tuberculosis of cattle, with the disease of the same name of man.*" Goring further calls attention to the immense economical interests which are thus placed in question, and remarks that at present the question of identity is still an open one.

At a meeting of the München Veterinary Association, held in that place April 22, 1876, it was decided that no trustworthy statistics then existed with reference to the extension of this disease in Bavaria, and that such knowledge was highly desirable, as also all collateral information with reference to the same. A ministerial order dated December 16, 1876, put this worthy object in motion, and the sum of the results thus obtained it is our intention to give in the following.

The number of cattle reported as complicated by tuberculosis in the kingdom of Bavaria for the year 1877 amounted to 4,976, which is 1.62 per cent. of every one thousand head of cattle in the kingdom. As to sex we find the disease was observed by 869 males and 4,107 females.

WITH REGARD TO SEX.

Steers.	Oxen.	Cows.	Young Cattle.	Calves.
146	652	3,905	248	25

NUMBER OF TUBERCULOTIC DISEASED PER 1,000.

By Steers.	By Oxen.	By Cows.	By Young Cattle.	By Calves.	Total.
5.84	1.39	2.50	0.35	0.09	1.62

The investigations with reference to the age of the deceased animals gave as follows:

64 under 1 year, or..... 1.31 per cent.
528 from 1 to 3 years old, or....10.81 "
1,846 " 3 to 6 " ....37.80 "
2,445 over 6 years old, or.....50.07 "

According to seat, whether serosæ or lungs, or both, were affected we find the following:

Lungs and serosæ.....2,000 cases = 41 per cent.
Lungs alone.....1,599 " = 33 "
Serosæ alone.....844 " = 17 "
Other organs..... 342 " = 8 "

The grade of the flesh of the slaughtered animals by which tuberculosis was found, was as follows:

First quality.....	455	times, =	10 per cent.
Second quality.....	1,921	" =	45 "
Third quality.....	1,902	" =	45 "

One thousand two hundred and four cases of intra-vital diagnosis are reported. From the nature of the early stages of the diseases it is evident many cases must have escaped observation; also that with the perfection of the methodic investigation the next year's statistics will be much more complete.

ÆTIOLOGICAL CONDITIONS.

The hereditariness of the disease is most emphatically demonstrated. In 123 cases the disease was attributed to the mother, and in 43 to the father. Three cases are given of infection by means of the coition. Ten reporters look upon a very profuse milk secretion as the ætiological incentive. In four cases, more or less extensive pus-centres were looked upon as the point from which infection proceeded. Two reporters consider that the race exerts a depressing influence, and five are thoroughly confirmed in the idea.

"*This, the first report of the Bavarian veterinarians upon this most serious subject, has not brought to view the slightest proof of the genetic connection of this disease with the tuberculosis of man. Nearly all the veterinarians declare that any disadvantageous influence from the consumption of the milk or flesh of tuberculotic diseased cattle is as yet unknown to them.*" (The above passage is nearly a literal translation See page 299, of original.)

Under the title, "Die Tuberculose eine Infectious-Krankheit," *i. e.*, the tuberculosis an infectious disease, Dr. Hubert Reich, of Mullheim, Germany, gives a most interesting paper in the "Berliner Klinischer Wochenschrift," No. 37, September 16, 1878.

Dr. Reich begins his paper with the remark that the idea that tuberculosis is an infectious disease is becoming more and more accepted, and the following remarks are given as evidence of the same. They have reference to the "*transmission of tuberculosis to a number of children by a phthisical midwife, and, indeed, by*

the direct way from mouth to mouth." In the little village of Neuenberg, of about 1,300 inhabitants, there were two midwives, R. and S.; S. was the one diseased, while R. was perfectly healthy. Dr. Reich then gives an account of ten children, all of whom died from meningitis tuberculosa, and all of whom were assisted into the world by midwife S., during the time when she presented the phenomena of progressed pulmonary phthisis; while during the same period not a single child died whose birth was assisted by midwife R., either from meningitis tuberculosa or any disease giving a suspicion of the presence of tuberculosis.

It was constituted by inquiries among the inhabitants that the midwife S. had the habit of sucking the mucosity from the mouths of new-born children, and that further she demonstrated most peculiarly affectionate tendencies for hugging and kissing them.

The results of Dr. Reich's paper are summed up by himself as follows:

1. In the time from the summer of 1875 to the fall of 1876, ten children died in Neuenberg from meningitis tuberculosa, who were born between April 4, 1875, and May 10, 1876.

2. A transmitted disposition was not to be proven by either of the ten children.

3. These ten children were assisted into the world by midwife S.

4. During the same period not a child born under the hands of midwife R., died of meningitis tuberculosis or a kindred disease.

5. Midwife S. had the above mentioned peculiar deportment with newly born children.

6. In three of the above mentioned cases of meningitis tuberculosa, the disease began with bronchitic phenomena.

7. Meningitis tuberculosa is not an endemic disease in Neuenberg.

In Virchow's Archives, Band 73, Heft. III., appears also a very interesting paper upon "Eine neue methode Tuberculose zu erzeugen," by Dr. Tappeiner in Merau.

The desire of Dr. Tappeiner to prove by experiment the correctness of the observation, that young girls from healthy families who become subjected to phthisis by long attendance on phthisic

persons, was due to the dispersion of infectious germs from the sputa in the air of the room. To this effect he made eleven experiments upon dogs—these animals are known to be resistant to tuberculos infection—several being confined at a time in a space of twelve cubic centimetres dimensions, into which by a spray-disperser was distributed in minute particles an emulsion composed of from fifteen to thirty grammes of the sputa of persons by whom caverns were undoubtedly present, the same being mixed with 300-500 CCm. aqua. The animals were subjected to the inhalation two times daily for an hour each time. In some cases they remained in the room, in others were allowed to roam about free during the intervals. It is self-evident that a quantitative introduction of the tuberculotic elements could not take place in this way, yet, with the exception of one dog, all the others presented on abduction the most manifest signs of miliary tuberculosis of the lungs, in most of the kidneys also, and in some the same were found in the liver and spleen.

The results of these experiments confirmed the suspicion that the aspiration of particles of tuberculous sputa was sufficient to produce tuberculosis by perfectly healthy dogs, which gives rise to the suspicion that the same way of infection takes place from man to man. Dr. Reich observes this can be obviated by having such patients isolated in large, airy, and well ventilated rooms, and that the probability of infection increases with the accumulation of such patients in the same rooms. *Cattle breeders and milk men should not be slow in learning a lesson from the above facts.*

F. S. B.

REPORT OF CASE.

DYSTOCIA IN A COW.

By J. C. Myers, Jr., D.V.S.

January 23d I was requested by Mr. Rakers, a dairyman residing at Barrsville, to render obstetrical assistance to a cow distressed with difficult parturition during the preceding sixteen

hours. On my arrival I found the cow lying on her right side with every indication of extreme prostration, making at irregular intervals feeble efforts to expel a fœtus. A vaginal examination disclosed a malposition of the fœtus, the buttock and tail presenting. To remedy this dystocia I endeavored to change the presentation by forcibly pushing the fœtus back into the uterine cavity, and then effect a version. This procedure was an utter impossibility, by reason of the great weight of the calf and the resistance experienced by the uterine contractions of the cow. After failing with this mode of management and discovering no signs of fœtal life, I at once proceeded with a view of diminishing the contour of the buttock of the calf by removing a portion of its pelvis. I made a large incision from the anus through the perineum of the calf, so as to permit my hand to enter with a saw, with which I severed the symphysis pubis. I then applied the saw to the anterior border of the pubis, as close to the acetabulum as possible, and cut it through to the obturator foramen; at the same time continuing the separation until the ischium was divided. I then adjusted the saw to the opposite side of the pelvis and severed it in a like manner. These cartilaginous segments were then removed with a long bistourie, which, in this case, was far better than an embryotomy knife, owing to the fact that the buttock of the calf had already been lodged close to the vulva of the cow. By this means the dissection could be carried out externally, after applying the instrument to the desired spot. Some of the sawing was also accomplished externally by an assistant, whilst my hand was resting on the back of the saw; thereby guiding the instrument until the separation was completed. After removing the severed portions of cartilage there was no more resistance perceived. The pelvic dimensions of the calf were then decidedly diminished and a free access into its body through the aperture made by enlarging the anus was established, enabling me to remove all the internal organs within reach. I next attached a hook to each side of the remnant pelvic frame, and with the additional tail-hold the fœtus was extracted without any impediment or violent traction. Besides decreasing the contour of the buttock by this operation, we removed the wedging

influence otherwise offered by the hind extremities, which is of great significance. They become entirely loose and find a position deeply imbedded in the flank and extended well forward under the abdomen as soon as traction is brought into effect.

In order to facilitate the passage of the fœtus, I made a uterine irrigation of a decoction of linseed, which proved very efficacious by reason of its blandness and slippery property. This irrigation was accomplished by pouring the tea from a pitcher into a funnel annexed to a common inch rubber hose about four feet in length, which had been previously introduced into the uterine cavity. "By suspending the linseed, secured in a coarse bag, in the water it is to be boiled in, we prevent the seed itself entering the uterine cavity, which, although perfectly innoxious, is not solicited." This method of lubrication, in my estimation, is notably preferable to any oleaginous material that might be used. It is not so rapidly absorbed by the skin and hair of the fœtus. When injected at a temperature of 98° it is very agreeable and soothing to the uterine walls; besides it is considerable cheaper than any of the oils or even lard, and can be at all times conveniently obtained. After the delivery was effected the cow still manifested a semi-comatose state, from which she soon revived through the agency of alcoholic stimulation. From this time on she continued to improve without exhibiting any untoward symptoms for forty-eight hours, when entire convalescence was restored. The placenta came away soon after the expulsion of the fœtus. The surgical portion of the treatment was perfected in one hour.

This is the third case of dystocia dependent upon a posterior presentation with the hind extremities flexed, that I ever managed with the aid of the saw, and am highly gratified with the mechanical success thereby attained. I feel assured that the utility of a six inch saw adjusted to a rod thirty inches in length, so that the sawing may be executed externally by an assistant, would be of inestimable obstetrical service in various cases of difficult parturition where embryotomy is indicated. Moreover, the danger of injuring the operator or maternal structures is far less to be dreaded with a saw than with a knife; hence wherever a selection of either instrument can be made the former should be chosen.

CORRESPONDENCE.

STAMPING OUT PLEURO-PNEUMONIA.

By E. F. Thayer, V.S.

The recent "scare" across the water, caused by the arrival of cattle affected with pleuro-pneumonia (doubtless caused by exposure in snow-bound cars), reflects the injury, if not the ruin, of our great interest in the export cattle trade. The question recurs, why not extirpate the scourge throughout the United States? It can be done, for it was done in Massachusetts, and we see no reason why the same result cannot be obtained in other States; not without labor, nor without money, yet if successfully accomplished, it would be the greatest boon that could be conferred upon the farming and grazing interests of this country.

How can it be extirpated? Enact stringent laws giving power to competent persons to trace out and visit all suspected herds, and either at once slaughter them, or isolate and afterwards slaughter, the payment for the animals to be apportioned to the town and State, the expenses of the Commissioners to be paid by the State. It is not probable that the disease exists in more than three or four States. One-quarter, or at most one-half, a million of dollars would finish the work, unless it exists more extensively than the reports indicate. It may be said that there is no immediate danger, as the disease does not exist in the localities from which the exported cattle are purchased. True, but who knows how distant the day is, in which, if the malady is allowed to exist, animals from diseased herds will be sold to western buyers; and with the long period of incubation, the number of animals which may be infected before the malady is recognized, if it should be introduced among the millions of cattle on the Texas plains, the losses would be appalling. To the writer it appears suicidal not to take hold of the matter and press it to a successful termination. The often repeated statement that Great Britian has suffered an annual loss of ten millions of dollars ($10,000,000) by

preventable contagious diseases among cattle, should be sufficient warning to the American people to take hold of the subject in earnest.

SUNDRIES AND NEWS.

VETERINARY HONORS.

At the meeting held on the 12th of December, 1878, Prof. Generali, of the Veterinary School of Milan, and Prof. Liautard, of the American Veterinary College in New York, were elected foreign corresponding members of the Central Society of Veterinary Medicine in Paris.

VETERINARY SCIENCE IN FRANCE AND BELGIUM.

Medical universities having been established at Lyons and Toulouse, Prof. Chauveau, Director of the Lyons Veterinary School, has been elected to the chair of comparative pathology in the first named university, and Professor Toussaint, of the Toulouse Veterinary School, to the chair of physiology in the university of that city. Prof. Wehenkel, of the Brussels University School, fills the chair of morbid anatomy and comparative pathology in the Brussels University.

PROLIFIC COW.

Hon. John D. Rue, of Dutch Neck, Mercer County, New Jersey, is the owner of a grade cow that has borne and raised nine calves within thirty-six months, or three years, having had twins three times, and now has triplets, alive and doing well, which she dropped in December last. Her first pair of twins were dropped in January, 1876.

OPPORTUNITY FOR A PRACTICE.

The Deer Creek Farmer's Club, of Harford County, Maryland, inquires for a regular good veterinarian. The prospects are

said to be excellent, and the perspective to obtain a good practice very advantageous. Applications can be made to Mr. Geo. E. Silver, Deer Creek P. O., Harford County, Maryland.

GLANDERS AND FARCY.

Glanders and farcy are prevailing to such extent in Springfield, Massachusetts, that the attention of the city council has been called to the necessity of taking measures to eradicate these diseases. Taking into consideration the existence of these blood-poison diseases, the prevalence of pleuro-pneumonia, the existence of hog cholera, we cannot avoid believing that the time is approaching when veterinarians will have an opportunity to show Americans the importance of their profession.

EXCHANGES, COMMUNICATIONS, ETC., RECEIVED.

HOME EXCHANGES.

Scientific American, Hospital Gazette, Medical Record, Country Gentleman, Turf, Field and Farm, New York Rural, American Bookseller, American Agriculturist, Prairie Farmer, Practical Farmer, Ohio Farmer, Scientific Farmer, Maine Farmer, National Live Stock Journal, Western Farm and Live Stock Journal, Index Medicus, Medical and Surgical Reporter.

FOREIGN EXCHANGES.

Journal de l'Agriculture, Veterinarian, Veterinary Journal, Recueil de Medicine Veterinaire, Archives Veterinaires, Mouvement Medical, Clinica Veterinaria, Revue fur Thierheilkunde und Thierzucht, Archiv fnr Wissurschoftliche und practishe Thierheilkunde, Bulletin de la Societe Central de Médicine Veternaire, Gazette Medicale.

NEWSPAPERS.

Western Sportsman, Western Agriculturist, Our Dumb Animals, Vermont Record, The Ploughman, New England Farmer,

The Leader (Can.), The Farm Journal, Farmers' Review, The Nation, The Farmers' Head Light, The Gazette (Can.), Medical Times and Gazette.

CATALOGUES, &c.

Bellevue Spring Session Announcement, 1879; Alumni Association, University of the City of New York; Prospectus of Royal Dicks Veterinary College; Announcement of Spring Session of the University of the City of New York; Announcement of the College of Physicians and Surgeons; 90th and 91st Reports of Regents of University of State of New York; Repertorium der Thierheilkunde; Universal Repertorum der Leistungen und Fortschritte auf dem Gebiette der Veterinarnissenschoften; Der Thierarzt; Revue Medecine Dosemetrigue Vetermaire; Annnal Commencement of Bellevue Hospital Medical College; Annual Commencement of University of City of New York; Annual Commencement of the College of Physicians and Surgeons.

COMMUNICATIONS.

F. S. Billings, M.V., C. P. Lyman, V.S., A. A. Holcombe, D.V.S., C. B. Michener, D.V.S., A. H. Rose, D.V.S., Prof. D. McEachran, V.S., H. B. Miller, W. J. Coates, D.V.S., E. F. Thayer, V.S., J. F. Winchester.

CORRECTION.

Mr. Editor:—I can but feel that I made an error, and did a worthy person an unintentional injustice, in my article on "Immobiliti," when I said, "Notwithstanding a long-continued, and, in some instances, bare-faced plagiarism of French veterinary literature." I should have laid emphasis on the little use which most of our people make of these valuable additions to our lit-

erature, as exemplified in the want of knowledge I endeavored to show up, and I can only say that the real sharpness of my words escaped me, in the haste and drive of work, until the printed article came before me.

Yours,

BILLINGS.

BERLIN, Feb. 4, 1879.

VETERINARY STATISTICS IN GERMANY.

THE OFFICIAL VETERINARIANS, THE NUMBER OF ANIMALS AND THEIR CHARGE AND THE TERRITORY OVER WHICH THEY HAVE CONTROL:

No. of Official Veterinarians in		Extent of Territory in Square Kilometers.	Number of Large Animals in Same.	Official Veterinarians to Kims.	No. of Large Animals under Inspection of Same.
Prussia	357	347,164	14,461,369	972	40,508
Bavaria	160	75,683	3,716,278	474	23,227
Wurtemberg	64	19,504	1,106,745	305	17,392
Baden	53	10,075	741,021	284	13,944
Saxony	44	14,990	871,744	341	19,812
Royallands	19	14,492	659,177	763	34,693
Hesse	21	7,676	373,073	366	17,765
Oldenburg	3	5,375	232,467	1,792	77,489
Lubeck	1	519	28,440	519	28,440
Dukedom Birkenfeld	1	513	20,173	503	20,173
Weimer	6	3,636	169,141	727	33,714
Saxon-Meiningen	5	2,468	89,551	494	17,910
Anhalt	5	2,347	99,243	469	19,844
Coburg-Gothe	2	1,968	85,562	984	43,281
Altenburg	6	1,322	78,710	220	13,028
Waldeck	3	1,135	37,264	378	12,421
Sohwarzburg Rudolstadt	2	942	32,950	436	16,475
" Sondershausen	2	862	37,142	431	18,571
Reussj L.	4	829	38,368	207	9,592
Schaumburg-Lippe	1	443	17,158	443	17,158
Hamburg	5	407	29,655	81	5,931
Reuss a L.	4	316	14,139	316	14,139
Lubeck	1	283	14,236	283	14,236
Bremen	1	250	19,995	250	19,995

From Thierartztliche Jahrbucher, by Dr. J. E. D. Falke, Heft V., 1878.

BILLINGS.

ored to
words
printed

NGS.

LS AND
THEY

No. of Large Animals under Inspection of Same.
40,508
23,227
17,392
13,944
19,812
34,693
17,765
77,489
28,440
20,173
33,714
17,910
19,844
43,281
13,028
12,421
16,475
18,571
9,592
17,158
5,931
14,139
14,236
19,995

e, Heft

INGS.